



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,590	09/08/2003	Sebastian C. Reyes	2003B091	9910

23455 7590 02/14/2005

EXXONMOBIL CHEMICAL COMPANY
5200 BAYWAY DRIVE
P.O. BOX 2149
BAYTOWN, TX 77522-2149

EXAMINER

KEYS, ROSALYND ANN

ART UNIT PAPER NUMBER

1621

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,590

Applicant(s)

REYES ET AL.

Examiner

Rosalynd Keys

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-75 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/8/03 & 10/27/03</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 1621

DETAILED ACTION

Status of Claims

1. Claims 1-75 are pending.

Claims 1-75 are rejected.

Information Disclosure Statement

2. The information disclosure statements filed September 8, 2003 and October 27, 2003 have been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-24, and 39-58 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The term "extra-framework" in claims 1 and 39 is a relative term which renders the claim indefinite. The term "extra" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner is uncertain what the Applicants mean by the phrase no extra-framework charge balancing cations, since crystalline microporous materials may contain varying amounts of cations. Thus, making it difficult to determine what amount of cations would be considered "extra".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-16, 18-21, 24, 39-51, 53-56, and 59-75 are rejected under 35 U.S.C. 102(e) as being anticipated by Risch et al. (S 2004/0254416 A1).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The instant claims are either expressly or inherently taught by Risch et al. (see entire disclosure, in particular paragraphs 0008-0014, 0029, 0034, 0036, 0041, 0046, 0047, 0050-0060, 0094, 0098, 0099, and 0105-0109. The Examiner considers the time of absorption, as disclosed in claims 4-6, 41-43 and 67-69, to be inherently taught, since the Applicants utilize the same adsorbents as disclosed by Risch et al.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1621

8. Claims 1-9, 11-14, 18, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis et al. (US 4,861,938) in view of Wilson et al. (US 4,310,440).

Lewis et al. teach preparation of an olefin product from oxygenates utilizing crystalline microporous three dimensional solid catalysts (see entire disclosure). The solid catalysts adsorb the oxygenates which are converted to the olefin products which have kinetic diameters that allow them to escape from the pores (see column 17, line 38 to column 20, line 68). The catalysts are regenerated to allow the absorbed molecules to leave or exit the catalyst pores (see column 21, line 13 to column 23, line 53). The conditions of the reaction/adsorption are given in column 24, lines 7-23).

For a more detailed description of the crystalline microporous materials disclosed by Lewis et al. see the entire disclosure of Wilson et al.

9. Claims 1-8, 10-14, 18, 39-45, 47-49, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagji et al. (EP 0 229 994 B1).

The instant claims are either expressly or inherently taught by Nagji et al (see entire disclosure, in particular page 2, line 62 to page 5, line 55). The Examiner considers the time of absorption, as disclosed in claims 4-6, and 41-43 to be inherently taught by Nagji et al., since the Applicants utilize the same adsorbents as disclosed by Nagji et al.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1621

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1, 10, 14-17, 18, 20, and 22-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (US 4,861,938) in view of Wilson et al. (US 4,310,440) in further view of Olson (US 6,488,741 B2) and Miller et al. (US 6,403,854).

Lewis et al. disclose the invention as disclosed above but fail to teach Si-CHA, DDR, ITE, GaPO-34, GaPO-18 as the crystalline microporous material. See also Wilson et al. as disclosed above.

Olson teaches that Si-CHA, DDR, ITE-3 GaPO-34, and GaPO-18 are isotypes of many of the crystalline microporous materials disclosed by Lewis et al. (see column 4, line 4 to column 5, line 2).

Art Unit: 1621

One having ordinary skill in the art at the time the invention was made would have found it obvious to substitute the crystalline microporous materials of Lewis et al. with those of Olson, since Olson teaches their crystalline microporous materials are isotypes of crystalline microporous materials such as SAPO-34 and ALPO4-18 disclosed by Lewis. Thus, the ordinary skilled artisan would reasonably expect them to behave similarly.

Lewis et al. further fail to teach that propane is included in the product stream and that it is separated from the propylene.

Miller et al. teach that propane is sometimes formed as by-product during the production of olefins from oxygenates (see column 1, line 23 to column 2, line 3).

One having ordinary skill in the art at the time the invention was made would have found it obvious that propane is also formed during the process of Lewis et al., since Miller et al. teach that oxygenate to olefin reactions, such as the one taught by Lewis et al. (US 4,861,938), may have temperature surges and hot spots in the reactor which increase the rate of catalyst deactivation and result in the production of undesirable by-products such as propane.

Olson et al. teach separation of propylene and propane through the use of the claimed crystalline microporous materials (see entire disclosure, in particular column 2, line 21 to column 7, line 53). Olson et al. teach that it is important to separate the propylene from the propane because of the many uses of propylene, one of the most important being as a monomer feedstock for polypropylene elastomer production (see column 1, lines 29-40). Olson teaches that their method has a high adsorption capacity for propylene and a high degree of selectivity of propylene over propane and other olefins (see column 2, lines 21-30).


Art Unit: 1621

One having ordinary skill in the art at the time the invention was made would have found it obvious to separate any propane by-product that forms during the production of propylene, as taught by Lewis et al., by the method taught by Olson et al., since Olson et al. teaches that their method has a high adsorption capacity for propylene and a high degree of selectivity of propylene over propane and other olefins. The skilled artisan would have been motivated to separate the propylene of Lewis et al. from any by-product propane formed because of the many uses of propylene.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, R and F 3:00-8:00 pm and T-W 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rosalynd Keys
Primary Examiner
Art Unit 1621

February 7, 2005